



# Hyla Brook Farm

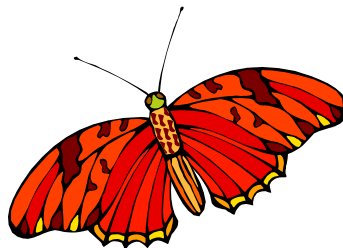
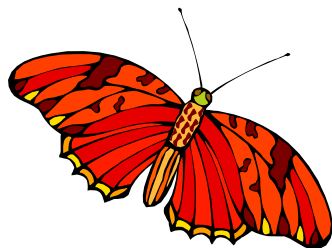
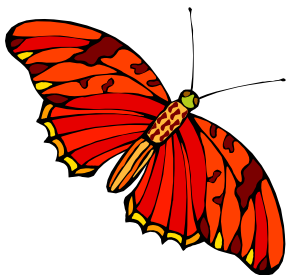
Native Plants and Plants for Wildlife

Teacher's Guide

to

Planting a Butterfly Garden

Using Native Plants





# Hyla Brook Farm

## Native Plants and Plants for Wildlife

### Teacher's Guide to Planting a School Butterfly Garden

#### Background:

**Understanding Butterfly Biology.** In order to have a successful butterfly garden you will need to accommodate as many of the specific habitat, biological and behavioral needs as possible. A butterfly must maintain an internal temperature of 82 degrees Fahrenheit in order to fly and an ambient air temperature of 40 degrees Fahrenheit. They can raise and maintain internal temperatures by basking and shivering. They overheat if temperatures rise over 100 degrees Fahrenheit. Therefore they need both a protected sunny area but one that is close enough to shade in which to retreat in the hot summer afternoons.

**Each species of butterflies have specific larval and nectar host plants.** The main method of attracting butterflies is by providing them with food which can be the larval host plant for the caterpillars and the nectar plants for the adults. Each species has specific larval host plants for example Monarch butterflies require milkweeds (*Asclepias*) and the Spicebush Swallowtails require Spicebush (*Lindera benzoin*). Adults feed off nectar from different flowers. The amount and quality of nectar is the most important aspect of plant selection. To butterfly high quality nectar is one which is low in sugar content and high in amino acids. Some of the best are Milkweeds (*Asclepias*), Asters (*Aster*), Goldenrods (*Solidago*), New Jersey Tea (*Ceanothus*), Buttonbush (*Cephalanthus*), Sunflowers (*Helianthus*), Joe Pye Weeds (*Eupatorium*) and Ironweed (*Vernonia*). Environmental factors such as temperature, humidity, day length, wind, soil fertility and plant health affect nectar development.

**It is very important to plant both larval and nectar sources that bloom at different times in order to provide food all season.** It is also important to note that overhead watering dilutes nectar so use drip irrigation when watering your garden (It also conserves water).

**Flower shape also plays an important role in the types of butterflies that you attract.** Butterflies feed through a long nectar tube. Small butterflies generally have smaller tubes while larger butterflies generally have longer tubes. Therefore, planting as many different shaped flowers is important for obtaining the greatest diversity of butterflies in your garden.

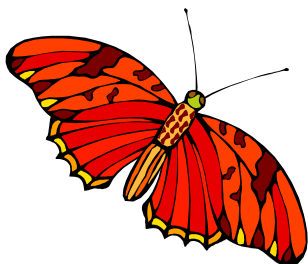
**Butterflies are very nearsighted and are more attracted to larger stands of a particular flower not just one or two.** Butterflies see polarized light which is determined by the angle of the sun therefore flower color is also important when designing your garden. They generally favor warmer colors such as red, orange, yellow, purple, white and pink.

**Butterflies rely just as much on scent as they do sight to determine available nectar sources.** Once a flower has been pollinated its scent declines. Therefore, deadheading your flower garden is essential in prolonging the viability as a nectar source throughout the season.

**Some species of butterflies get their food and nutrition from other sources than nectar.** The Question Marks, Hackberry butterflies, Buckeyes, Purples and Satyrs get their nectar from tree sap or rotting fruit. In order to attract them to your garden you can mix rotted bananas and apricots or fermented peaches and white granulated sugar.

**Butterflies also need other micronutrients from time to time.** They are often found concentrating around drying mud puddles in a process called puddling. You can make a puddling bed by combining sand, salt and manure and watering regularly. The salt and manure should be at a rate of ½ cup each per gallon of sand. Another way to provide many of the same micronutrients is to provide an uncovered compost pile.

**Finally, many butterfly species over winter in our area.** These species include Swallowtails, Hairstreaks, White and Red Admirals, Mourning Cloaks, Red Spotted Purples and Viceroy's. These species hibernate in different forms in thick vegetation such as native grasses, on tree snags or trees with exfoliating bark and under eaves. You should plan for these areas in or near your butterfly garden.



## Before you Begin:

- Get permission from your school administration and maintenance head.
- Choose a site for the garden.
- Go over the background information on butterflies with your class.
- Talk about how butterflies use plants, their habitat requirements, and life cycle.
- Discuss the responsibilities involved with planting and maintaining the garden.
- Assign job titles to class members: Wizard of Watering, Warrior of Weeding, Jester of Journaling, Prince of Publicity, etc.
- Create a timeline for completing the garden.
- Plan a dedication of the garden when it is complete.

## Garden Planning:

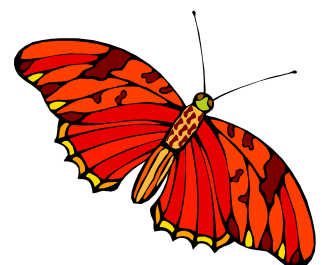
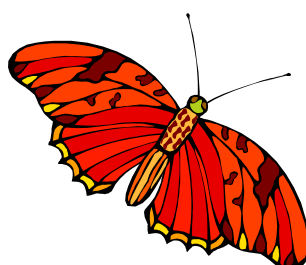
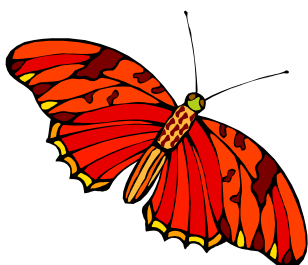
- Learn about the different host plants and nectar plants.
- Choose plants and make a scale garden plan for the site.
- Consider plant color, bloom time, and height.
- Set up a garden maintenance schedule.

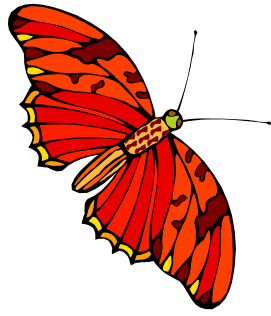
## Planting time!

- Call Miss Utility about utility locations before digging.
- Prepare the soil.
- Set the plants out before you dig the holes.
- Plant the plants! You may want to add a small amount of bone meal and/or other organic fertilizer or compost to each hole.
- Spread mulch.
- Water the garden well.

## Watch in Wonder!

- Plan visits to your garden to observe the plants and butterflies.





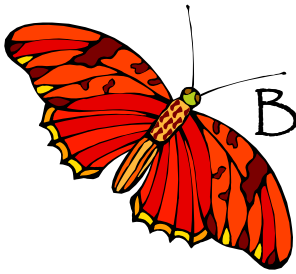
## BUTTERFLY HOST PLANTS

### Common Name

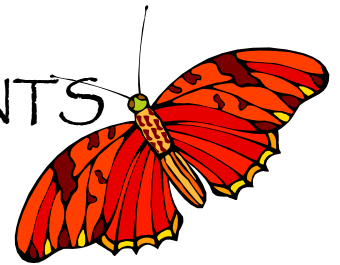
Aster  
Beardtongues  
Birch  
Blueberry  
Dogwood  
Grasses & Sedges  
Hackberry  
Hibiscus  
Lupine  
Milkweed  
Oak  
Passionflower  
Pawpaw  
Pipevine  
Sneezeweed  
Spicebush  
Stonecrop  
Turtlehead  
Violet

### Botanical Name

*Aster sp.*  
*Penstemon sp.*  
*Betula sp.*  
*Vaccinium sp.*  
*Cornus sp.*  
*Sorghastrum sp. & Juncus sp.*  
*Celtis sp.*  
*Hibiscus sp.*  
*Lupinus sp.*  
*Asclepias sp.*  
*Quercus sp.*  
*Passiflora sp.*  
*Asimina sp.*  
*Aristolochia sp.*  
*Helenium sp.*  
*Lindera sp.*  
*Sedum sp.*  
*Chelone sp.*  
*Viola sp.*



# BUTTERFLY NECTAR PLANTS



## Botanical Name

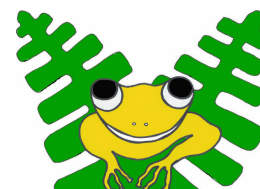
*Allium sp.*  
*Anemone sp.*  
*Aquilegia sp.*  
*Asclepias sp.*  
*Aster sp.*  
*Baptisia sp.*  
*Calycanthus sp.*  
*Campanula sp.*  
*Chelone sp.*  
*Coreopsis sp.*  
*Cornus sp.*  
*Echinacea sp.*  
*Eupatorium sp.*  
*Gentiana sp.*  
*Helianthus sp.*  
*Heliopsis sp.*  
*Iris sp.*  
*Liatis sp.*  
*Lilium sp.*  
*Lindera sp.*  
*Lobelia sp.*  
*Lupinus sp.*  
*Monarda sp.*  
*Penstemon sp.*  
*Ratibidia sp.*  
*Rhododendron sp.*  
*Rudbeckia sp.*  
*Silene sp.*  
*Silphium sp.*  
*Solidago sp.*  
*Thalictrum sp.*  
*Tradescantia sp.*  
*Vernonia sp.*  
*Veronicastrum sp.*  
*Viburnum sp.*  
*Viola sp.*

## Common Name

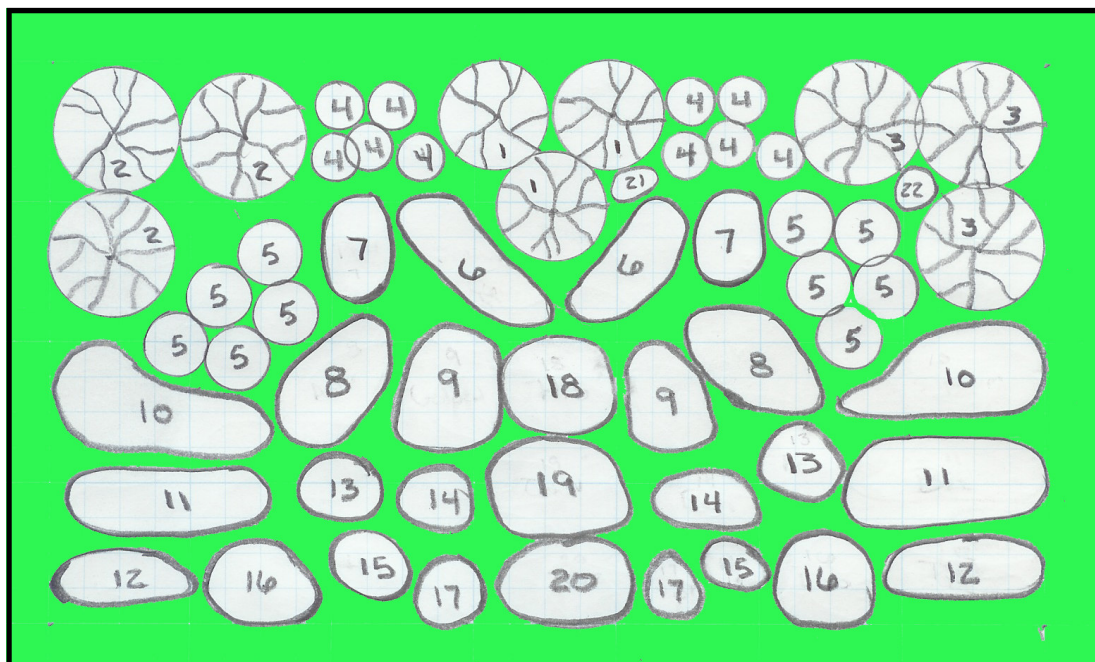
Nodding Onion  
Anemone  
Columbine  
Milkweeds  
Asters  
Wild Indigo  
Spicebush  
Harebells  
Turtleheads  
Coreopsis  
Dogwoods  
Coneflowers  
Joe Pye Weeds  
Gentians  
Sunflowers  
False Sunflowers  
Iris  
Liatis  
Turks Cap Lily  
Spicebush  
Lobelias  
Lupines  
Monarda  
Beardtongues  
Yellow Coneflowers  
Native Azaleas  
Black Eyed Susans  
Fire Pinks  
Cup Plants  
Goldenrods  
Meadowrues  
Spiderworts  
Ironweeds  
Culvers Root  
Viburnums  
Violets

# Hyla Brook Farm

## Butterfly Garden Plan



www.hylabrookfarm.com



#	Common Name	Botanical Name	Height	Bloom Color/Time
1	Serviceberry	Amelanchier grandiflora	20' - 40'	White / Spring
2	River Birch	Betula nigra	30' - 60'	—
3	American Hornbeam	Carpinus caroliniana	15' - 20'	—
4	Native Azalea	Rhododendron sp.	3' - 15'	White, Red, Pink / Spring-Summer
5	Virginia Sweetspire	Itea virginica	3' - 6'	White / Summer
6	Indian Grass	Sorghastrum nutans	5'	Copper / Summer-Fall
7	Phlox	Phlox paniculata	5' - 6'	Pink / Summer
8	Aster	Aster sp.	3' - 6'	Purple, Pink / Summer-Fall
9	Goldenrod	Solidago sp.	3' - 8'	Yellow / Summer-Fall
10	Cup Plant	Silphium perfoliatum	3' - 8'	Yellow / Summer
11	Oswego Tea	Monarda didyma	3' - 4'	Red / Summer
12	Mountain Mint	Pycnanthemum sp.	2' - 4'	White, Pink / Summer
13	Milkweed	Asclepias sp.	4' - 6'	Orange/Pink / Summer
14	Purple Coneflower	Echinacea purpurea	2' - 3'	Pink / Summer
15	Sneezeweed	Helenium autumnale	3' - 5'	Yellow / Summer-Fall
16	Great Blue Lobelia	Lobelia siphilitica	2' - 3'	Blue / Summer
17	Bird's Foot Violet	Viola pedata	3" - 6"	Violet / Spring-Summer
18	Rose Mallow	Hibiscus moscheutos	3' - 7'	Rose-Pink / Summer-Fall
19	Culver's Root	Veronicastrum virginicum	4' - 5'	White / Summer
20	Joe Pye Weed	Eupatorium maculatum	4' - 6'	Pink / Summer
21	Pipevine	Aristolochia tomentosa	6' - 40'	Brown-Burgundy / Summer
22	Yellow Jessamine	Gelsemium sempervirens	3' - 20'	Yellow / Spring-Summer

## Resources:

Ajilvsgi, Geyata. 1990. *Butterfly Gardening for the South*. Lanham: Taylor Trade Publishing.

Glassberg, Jeffrey. 1999. *Butterflies through Binoculars*. New York: Oxford University Press.

Stokes, Donald and Lillian. 1991. *The Butterfly Book*. Boston: Little, Brown and Company.

Wagner, David L. 2005. *Caterpillars of Eastern North America*. Princeton: Princeton University Press.



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